IT IS CLAIMED:

1. An electromagnetically conductive textile fabric comprising conductive fibers providing a conductivity gradient through its thickness.

2. The fabric of claim 1 wherein said conductive fibers are entangled.

3. The fabric of claim 2 wherein said fabric varies through its thickness in a property selected from the group consisting of intrinsic fiber conductivity, susceptibility to fiber coating by conductive materials, fabric density, fiber density, fiber denier, and fiber surface area.

4. The fabric of claim 3 which is selected from the group consisting of felt fabrics, woven fabrics treated to provide entanglable conductive fibers, and knitted fabrics treated to provide entanglable conductive fibers.

5. The fabric of claim 4 which comprises two or more superimposed webs of different conductivities whose adjoining surfaces provide transition regions comprising entangled conductive fibers from each web associated with said adjoining surfaces, said regions having conductivities intermediate that of the adjoining webs.

6. The fabric of claim 5 wherein said webs are selected from the group consisting of felt fabrics.

7. The fabric of claim 5 wherein said webs are selected from the group consisting of woven fabrics and knitted fabrics, which are treated to provide entanglable conductive fibers.

8. The fabric of claim 7 which further comprises at least one web of felt fabric.

9. The fabric of claim 3 wherein said fibers are intrinsically conductive.

10. The fabric of claim 9 wherein said intrinsically conductive fibers contain a conductor selected from the group consisting of carbon, ferrite, and metal.

11. The fabric of claim 3 wherein said fibers comprise a conductive coating.

12. The fabric of claim 11 wherein said conductive coating is selected from the group consisting of conductive polymer, metal coating, and carbon powder coating.

13. The fabric of claim 11 wherein said conductive polymer is selected from the group consisting of polypyrrole, polyanaline and derivatives thereof.

14. The fabric of claim 11 which further comprises an additional coating over said conductive coating selected from the group consisting of conductive coating protective coating, fire retardant coating, colorant coating and water repellent coating.

15. The fabric of claim 3 which further comprises fibers selected from the group consisting of nonconductive fibers, thermoplastic fibers, yarns, and staple fibers.

16. The fabric of claim 3 which comprises a plurality of superimposed webs of different conductivities which webs are needlepunched to form a unitary construction.

17. The fabric of claim 3 which comprises a plurality of superimposed webs of different densities which webs are needlepunched to form a unitary construction.

18. The fabric of claim 17 wherein said fibers are made conductive by coating the fibers with a conductive polymer after said needlepunching.

19. The fabric of claim 3 wherein said fabric has a thickness ranging from 40 mils to 4 inches.

20. The fabric of claim 3 wherein said fabric has a thickness ranging from 100 mils to 1 inch.

21. The fabric of claim 3 which has a transmission loss through the fabric of greater than 5 dB at 9GHz, where dB loss = 20 log (V_w/V_O), where V_w is the electric field intensity measured through the fabric and V_O is the electric field intensity measured without the fabric.

22. The fabric of claim 3 which has a transmission loss through the fabric of greater than 15 dB at 9GHz, where dB loss = 20 log (V_w/V_O), where V_w is the electric field intensity measured through the fabric and V_O is the electric field intensity measured without the fabric.

23. The fabric of claim 3 which has a difference in reflection of electromagnetic radiation of greater than 1dB at 9 GHz between the fabric measured with the fabric surface of lower conductivity facing a source of said radiation and the fabric measured with the fabric surface of higher conductivity facing a source of said radiation.

24. The fabric of claim 3 wherein the conductivity varies from the inner 1/4 of fabric thickness of higher conductivity to the outer 1/4 of fabric thickness of lower conductivity by a factor of at least 1.5:1.

25. The fabric of claim 3 wherein the conductivity varies from the inner 1/4 of fabric thickness of higher conductivity to the outer 1/4 of fabric thickness of lower conductivity by a factor of at least 4:1.

26. The fabric of claim 3 wherein said fibers are selected from the group consisting of silk fibers, wool fibers, cotton fibers, polyester fibers, nylon fibers and acrylic fibers.

27. A method for preparing an electromagnetically conductive textile fabric comprising conductive fibers which provide a conductivity gradient through its thickness which comprises:

a) providing a fabric comprising entangled conductive fibers which fabric varies through its thickness in intrinsic fiber conductivity; or

b) providing a fabric comprising entangled conductive and non-conductive fibers in which the percentage of conductive fibers varies through its thickness.

28. A method for preparing an electromagnetically conductive textile fabric comprising conductive fibers which provide a conductivity gradient through its thickness which comprises:

i) providing a fabric comprising entangled non-conductive fibers which fabric varies through its thickness in a property selected from the group consisting of susceptibility to fiber coating by conductive materials, fabric density, fiber density, fiber denier, and fiber surface area;

ii) coating said fibers with a conductive coating selected from the group consisting of conductive polymer, metal coating, and carbon powder coating.

29. The method of claim 28 which comprises

iii) additionally providing over said conductive coating a subsequent coating selected from the group consisting of conductive coating protective coating, flame retardant coating, colorant coating and water repellent coating.

30. A method for preparing an electromagnetically conductive textile fabric comprising conductive fibers which provide a conductivity gradient through its thickness which comprises:

1) providing a first web comprising entangled non-conductive fibers, said first web having a first density based on surface area of fibers per volume of said first web;

2) providing a second web comprising entangled non-conductive fibers, said second web having a second density based on surface area of said fibers per volume of said second web, and said second web optionally comprising fibers which contain low temperature melting polymer;

3) providing an overlay comprising said first and second webs;

4) needlepunching said overlay to provide a unitary fabric, held together by the entanglement of fibers from the first and second web and having a density which varies through the thickness of said unitary fabric, and optionally heat-setting said unitary fabric;

5) coating the fibers of said first and second webs by contacting the fabric with a solution of conductive polymer precursor;

6) converting said precursor to conductive polymer to provide conductive fibers and a conductive gradient through the thickness of said fabric; and

7) optionally coating said conductive fibers with a flame retardant composition.

31. A method for reducing electromagnetic reflection of an electromagnetic radiation reflective surface which comprises covering said surface with the fabric of claim 1.